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Substitute for form 1449/PTO		<b>Complete if Known</b>			
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(Use as many sheets as necessary)</i>		Application Number	10/691,396		
		Filing Date	October 21, 2003		
		First Named Inventor	HIGGINS, Michael, Francis		
		Art Unit	2628		
		Examiner Name	AMEN, Jwalant B.		
Sheet	1	of	6	Attorney Docket Number	08831.0059

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Documents	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
JA		US-4,439,759	03-27-1984	Fleming et al	—
		US-5,233,385	08-03-1993	Sampsel	—
		US-5,416,890	05-16-1995	Beretta	—
		US-5,438,649	08-01-1995	Ruetz	—
		US-5,448,652	09-05-1995	Vaidyanathan et al	—
		US-5,694,186	12-02-1997	Yanagawa et al	—
		US-5,719,639	02-17-1998	Imamura	—
		US-5,724,442	03-03-1998	Ogatsu et al	—
		US-5,731,818	03-24-1998	Wan et al	—
		US-5,917,556	06-29-1999	Katayama	—
		US-5,933,253	08-03-1999	Ito et al	—
		US-5,987,165	11-16-1999	Matsuzaki et al	—
		US-6,023,527	02-08-2000	Narahara	—
		US-6,054,832	04-25-2000	Kunzman et al	—
		US-6,108,053	08-22-2000	Pettitt et al	—
		US-6,256,425 B1	07-03-2001	Kunzman	—
		US-6,297,826 B1	10-02-2001	Semba et al	—
		US-6,360,008 B1	03-19-2002	Suzuki et al	—
JA		US-6,483,518 B1	11-19-2002	Perry et al	—

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Documents	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)				
JA		WO 2004/086128 A1	10-07-2004	Kim et al	—	
		WO 01/37251 A1	05-25-2001	Hirano et al	—	
		JP 08-202317	08-09-1996	Moriyoshi	—	Abstract
		JP 6-261332	09-16-1994	Kanazawa et al	—	Abstract
JA		WO 2004/040548	05-13-2004	Ben-Chorin et al	—	

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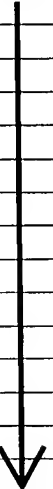
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**Complete if Known**

Application Number	10/691,396
Filing Date	October 21, 2003
First Named Inventor	HIGGINS, Michael, Francis
Art Unit	2628
Examiner Name	AMIN, Jwalant B.
Attorney Docket Number	08831.0059

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## U.S. PATENT DOCUMENTS

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JA 		US-2004/0169807 A1	09-02-2004	Rho et al	11
		US-2004/0179160 A1	09-16-2004	Rhee et al	11
		US-2004/0195963 A1	10-07-2004	Choi et al	11
		US-2004/0222999 A1	11-11-2004	Choi et al	11
		US-2004/0223005 A1	11-11-2004	Lee	11
		US-2003/0058466 A1	03-27-2003	Hoshuyama	11
		US-2003/0117457 A1	06-26-2003	Qiao	11
		US-2003/0179212 A1	09-25-2003	Matsushiro et al	11
		US-2005/0031199 A1	02-10-2005	Ben-Chorin et al	11
		US-6,980,219 B2	12-27-2005	Higgins	11
		US-7,176,935 B2	02-07-2007	Higgins	11
		US-2005/0083341 A1	04-21-2005	Higgins et al	11
		US-2005/0083344 A1	04-21-2005	Higgins	11
		US-2005/0083345 A1	04-21-2005	Higgins	11
		US-2005/0083352 A1	04-21-2005	Higgins	11
JA		US-2005/0225562 A1	10-13-2005	Higgins et al	11
JA		US-2005/0264580 A1	12-01-2005	Higgins	11

## FOREIGN PATENT DOCUMENTS

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		Art Unit	2628		
		Examiner Name	AMIN, Jwalant B		
Sheet	5	of	6	Attorney Docket Number	08831.59

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
JA		Betrisey, C., et al., "Displaced Filtering for Patterned Displays, SID Symp. Digest 1999, pgs 296-299	-
		Brown Elliott, C., "Active Matrix Display....", IDMC 2000, 185-189, 8/2000.	-
		Brown Elliott, C., "Color Subpixel Rendering Projectors and Flat Panel Displays," SMPTE, Feb 27-Mar 1, 2003, Seattle, WA pp 1-4	-
		Brown Elliott, C., "Co-Optimization of Color AMLCD Subpixel Architecture and Rendering Algorithms," SID 2002 Proceedings Paper, May 30, 2002 pp 172-175	-
		Brown Elliott, C., "Development of the PenTile Matrix™ Color AMLCD Subpixel Architecture and Rendering Algorithms", SID 2003, Journal Article	-
		Brown Elliott, C., "New Pixel Layout for PenTile Matrix™ Architecture", IDMC 2002, pp 115-117	-
		Brown Elliott, C., "Reducing Pixel Count Without Reducing Image Quality", Information Display 12/99, Vol 1, pp 22-25	-
		Credelle, Thomas, "P-00: MTF of High-Resolution PenTile Matrix Displays", Eurodisplay 02 Digest, 2002 Pages 1-4	-
		Klompenerhouwer, Michiel, "Subpixel Image Scaling for Color Matrix Displays, SID Symp. Digest, 05/02, pp 176-179	-
JA		Michiel A. Klompenerhouwer, Gerard de Haan, Subpixel image scaling for color matrix displays, Journal of the Society for Information Display, Volume 11, Issue 1, March 2003, pp. 99-108	-

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JA		Messing, Dean et al., Improved Display Resolution of Subsampled Colour Images Using Subpixel Addressing, IEEE ICIP 2002, Vol 1, pp 625-628		
		Messing, Dean et al., Subpixel Rendering on Non-Striped Colour Matrix Displays, 2003 International Conf on Image Processing, 9/2003, Barcelona, Spain, 4 pages		
		MOROVIC, J., Gamut Mapping, in Digital Color Imaging Handbook, ed. G. Sharma, Boca Raton, FL: CRC Press, December, 2002, Chapter 10, pp. 635-682		
		USPTO, Notice of Allowance, dated March 21, 2005 in US Patent No. 6,980,219 (US Serial No. 10/691,200, Attorney Docket No. 8831.0057)		
		USPTO, Non-Final Office Action dated June 13, 2005 in US Patent Publication Number 2005/0083344 (US Serial No. 10/690,716, Attorney Docket No. 8831.0060)		
		Clairvoyante, Inc. Response to Non-Final Office Action, dated December 13, 2005 in US Patent Publication Number 2005/0083344 (US Serial No. 10/690,716, Attorney Docket No. 8831.0060)		
		Clairvoyante, Inc., Supplemental Amendment dated August 23, 2006 in US Patent Publication Number 2005/0083344 (US Serial No. 10/690,716, Attorney Docket No. 8831.0060)		
		USPTO, Interview Summary, dated August 25, 2006 in US Patent Publication Number 2005/0083344 (US Serial No. 10/690,716, Attorney Docket No. 8831.0060)		
JA		USPTO, Interview Summary, dated August 29, 2006 in US Patent Publication Number 2005/0083344 (US Serial No. 10/690,716, Attorney Docket No. 8831.0060)		

Examiner Signature	/Jwalant Amin/	Date Considered	03/01/2007
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